

In the Claims

Please replace all prior versions, and listings, of claims in the application with the following Listing of the Claims, including marked-up claims with insertions indicated by underlining and deletions indicated by strikeouts and/or double bracketing.

Listing of the Claims

1. (Currently amended) A multi-band inductive circuit in an integrated circuit, forming a dipole and comprising at least two parallel branches, ~~respectively one of the at least two parallel branches~~ comprising a first inductance and another of the at least two parallel branches comprising a second inductance in series with a capacitor, the two inductances being coupled to each other.

2. (Currently amended) The multi-band inductive element circuit of ~~any of~~ claim 1, wherein ~~na first number of~~ a first number of parallel branches each comprise an inductance, ~~n-1 one less than the first number of these branches further comprising a series capacitor, to form an inductive elements with n~~ so that the multi-band inductive circuit is operative to handle the first number of bands.

3. (Currently amended) The multi-band inductive element circuit of claim 1, wherein the inductances are formed by superposed planar conductive windings.

4. (Currently amended) The multi-band inductive element circuit of ~~any of~~ claim 1, wherein ~~the a~~ a value of the first inductance is selected to approximately correspond to a first cut-off frequency or to ~~the a~~ a central frequency of a first impedance matching band, desired for the multi-band inductive element circuit.

5. (Currently amended) The multi-band inductive element circuit of claim 4, wherein ~~the a~~ a value of the second inductance is selected to approximately correspond to a value such that ~~the an~~ an equivalent inductance of the two ~~elements~~ branches in parallel corresponds to ~~the a~~ a value desired for a second cut-off frequency or for ~~the a~~ a central frequency of a second impedance matching band of the multi-band inductive element circuit.

6. (Currently amended) The multi-band inductive element circuit of claim 4, wherein ~~the~~ a value of the capacitor is selected according to a resonance frequency desired for the multi-band inductive element circuit.

7. (Currently amended) The multi-band inductive element circuit of claim 6, wherein the capacitor is variable, to form a programmable filter.

8. (Currently amended) A multi-band impedance matching circuit, comprising the multi-band inductive element circuit of ~~any of~~ claim 1, and at least one capacitor and/or inductance.

9. (Currently amended) A multi-band resonator, comprising the multi-band inductive element circuit of ~~any of~~ claim 1 connected between a first electrode of a capacitor having its second electrode connected to a transmit line and the ground.

10. (Currently amended) A multi-band radiofrequency transceiver chain, comprising ~~impedance matching elements of claim 8. a multi-band impedance matching circuit, the multi-band impedance matching circuit comprising:~~

a multi-band inductive circuit in an integrated circuit, forming a dipole and comprising at least two parallel branches, one of the at least two parallel branches comprising a first inductance and another of the at least two parallel branches comprising a second inductance in series with a capacitor, the two inductances being coupled to each other; and at least one capacitor and/or inductance.

11. (New) A circuit for transmitting and/or receiving electromagnetic signals comprising an inductive circuit, the inductive circuit comprising:

a first inductive element; and

a second inductive element electromagnetically coupled to the first inductive element and connected in series to a capacitive element, wherein the series connection of the second

inductive element and the capacitive element is connected in parallel to the first inductive element.

12. (New) The circuit of claim 11, wherein the inductive circuit is operative for multiple operating frequencies.

13. (New) The circuit of claim 12, wherein the inductive circuit is operative for only two operating frequencies, and

wherein the inductive circuit is sized to have a resonance frequency value between the values of the two operating frequencies.

14. (New) The circuit of claim 13, wherein the circuit is operative for two passbands, and

wherein each of the two operating frequencies is a respective central frequency of one of the passbands.

15. (New) The circuit of claim 11, wherein the circuit is an integrated circuit.

16. (New) The circuit of claim 11, wherein the second inductive element and the capacitive element form a series resonance circuit.

17. (New) The circuit of claim 1, wherein the inductive circuit forms a dipole.

18. (New) The circuit of claim 11, wherein the inductive circuit is an impedance matching circuit.

19. (New) The circuit of claim 11, wherein the circuit is a resonator.

20. (New) The circuit of claim 11, wherein the circuit is a multi-band radiofrequency transceiver chain.

21. (New) The circuit of claim 20, wherein the multi-band radiofrequency transceiver chain comprises a transmit chain and a receive chain, the transmit chain and/or the receive chain comprising only a single mixer to mix a signal provided by an oscillator and a signal received by the receive chain or to be transmitted from the transmit chain.

22. (New) The circuit of claim 21, wherein the transmit chain and/or the receive chain of the multi-band radiofrequency transceiver chain comprises only a single amplifier to amplify a signal received by the receive chain or to be transmitted from the transmit chain.

23. (New) The circuit of claim 22, wherein the multi-band radiofrequency transceiver chain is connected to an antenna and is operative for two central frequencies of respective passbands, the transmit chain and/or the receive chain of the multi-band radiofrequency transceiver chain further comprising:

two bandpass filters, each having a first node connected to the antenna and a second node;

a switch to selectively connect one of the second nodes of the two bandpass filters to a first node of the inductive circuit, wherein a second node of the inductive circuit is connected to a first node of the amplifier;

another inductive circuit comprising a first inductive element and a second inductive element electromagnetically coupled to the first inductive element and connected in series to a capacitive element, wherein the series connection of the second inductive element and the capacitive element is connected in parallel to the first inductive element, a first node of the other inductive circuit connected to a second node of the amplifier, and a second node of the other inductive circuit connected to a node of the mixer.

24. (New) The circuit of claim 11, wherein the first inductive element is sized to have an inductance value desired for a first operating frequency of the inductive circuit, and wherein the second inductive element is sized so that an equivalent inductance of the first and second inductive elements has a value desired for a second operating frequency of the inductive circuit.

25. (New) The circuit of claim 24, wherein the capacitive element is sized to have a capacitance value desired to produce a particular resonant frequency of the inductive circuit.

26. (New) A multi-band radiofrequency transceiver chain comprising a transmit chain, the transmit chain comprising:

a plurality of bandpass filters, each bandpass filter having an input node and an output node to provide an output signal of the transmit chain, and each bandpass filter corresponding to a different operating frequency;

a single transmit path having an input node serving as an input of the transmit chain and having an output node to provide a signal as input to the input node of one of the bandpass filters; and

means for propagating signals from the input node of the single transmit path to the output node of the single transmit path at each of the plurality of different operating frequencies.

27. (New) The multi-band radiofrequency transceiver chain of claim 26, wherein the transmit chain further comprises:

a switch to selectively connect the output node of the single transmit path to the input node of one of the bandpass filters.

28. (New) The multi-band radiofrequency transceiver chain of claim 26, wherein the single transmit path comprises a single mixer connected in series with a single amplifier.

29. (New) The multi-band radiofrequency transceiver chain of claim 28, wherein the single mixer is operative to mix an input signal received at the input node of the single transmit path and a signal provided by an oscillator to produce a mixed signal.

30. (New) The multi-band radiofrequency transceiver chain of claim 29, wherein the single amplifier is operative to amplify the mixed signal.

31. (New) A multi-band radiofrequency transceiver chain comprising a receive chain, the receive chain comprising:

a plurality of bandpass filters, each bandpass filter having an output node and an input node to receive an input signal of the receive chain, and each bandpass filter corresponding to a different operating frequency;

a single receive path having an output node serving as an output of the receive chain and having an input node to receive as input a signal output from the output node of one of the bandpass filters; and

means for propagating signals from the input node of the single receive path to the output node of the single receive path at each of the plurality of different operating frequencies.

32. (New) The multi-band radiofrequency transceiver chain of claim 31, wherein the receive chain further comprises:

a switch to selectively connect the output node of one of the bandpass filters to the input node of the single receive path.

33. (New) The multi-band radiofrequency transceiver chain of claim 31, wherein the single receive path comprises a single amplifier connected in series with a single mixer.

34. (New) The multi-band radiofrequency transceiver chain of claim 31, wherein the single amplifier is operative to amplify the signal received from the output node of one of the bandpass filters to produce an amplified signal.

35. (New) The multi-band radiofrequency transceiver chain of claim 31, wherein the single mixer is operative to mix the amplified signal and a signal provided by an oscillator to produce a mixed signal.